

Thinking About Transit Options



- Existing Factors Affecting Transit Demand
- Service Design Options
- Funding Sources

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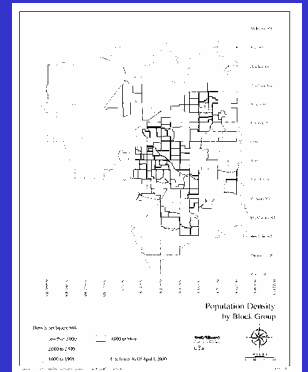
Moderate Population Density

Setting

- 2,901 people/sq. mi. (average)
- Concentrations > 4,000 people/sq. mi. (fixed route service)

Transit Implications

- Moderate ridership (overall)
- Moderate headways (overall) 15/30/60 minutes
- Look for high density concentrations



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Small Area → Short Trips

Setting

- Trips 4-8 miles, 10-20 minutes (car)

Transit Implications

- Hard to attract auto users for "long" trips
 - Current transit travel + wait times greater than auto
 - Preferential transit treatment not likely to eliminate gap
- May attract auto users who have parked
 - Downtown shuttle — lunch, business, residents
 - Activity area shuttle — UNL



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Parking is Available!

Setting

- Parking is convenient, moderate price
- Public policy supports parking
- Parking a problem at UNL and parts of downtown (e.g., state government)

Transit Implications

- Good parking is a reason not to use transit (overall)
- UNL and downtown are opportunities



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Why are existing factors important?

- Identify current opportunities under existing conditions — not just general population.
 - e.g., Downtown commuters, UNL
 - Why? Increased ridership, additional funding
- Suggest future public policies that would encourage transit usage
 - Concentrated development
 - Preferential treatment for transit vehicles serving long trips in congested areas
 - Consideration of transit as part of the parking solution

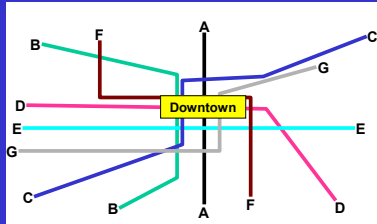
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Key Service Design Elements

- Service Form (Route/Service Type)
- Hours of Operation (Span of Service)
- Level of Service (Frequency, Response Time)

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Radial Route Network



Pro: Direct service to downtown

Con: Circuitous service to other destinations

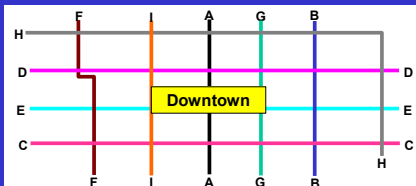
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Pulse-Scheduled Radial (Basic StarTran Design)

- Design Concepts
 - Buses arrive/depart at about the same time (downtown) to reduce transfer time delay
 - Used for headways ranging from 15 to 60 minutes
 - Route length/path determined by cycle time (headway) → can produce meandering routes
- Problems
 - Requires parking space downtown for buses
 - Design not adaptable to change — traffic congestion or growing communities
 - More “long/short” StarTran routes since downtown is not geographical center of city

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Grid Route Network



Pro: Service to any destination with one transfer

Con: Requires frequent service (5-10 minutes)

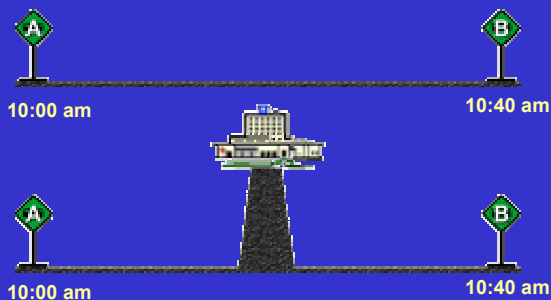
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Modified Pulse Radial System

- Concept
 - Some crosstown (non-downtown) routes e.g., StarTran Routes 18 48th Street Shuttle
 - Not all routes pulse-scheduled
 - Possible second pulse point at a suburban activity center (shopping center)
- Many transit systems operate this “hybrid”
- Might be appropriate for Lincoln
 - Downtown focus of system
 - UNL unmet needs
 - Shuttle service supported by downtown businesses
 - New generators in outlying parts of city

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Route Deviation



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Point Deviation



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Demand Response

Concept

- Door-to-door service
- Service scheduled by reservations
- Like taxi-cab service except shared rides
- StarTran's *Handi-Van* service is demand response

Pro: Service only operated when needed

Con: Expensive on a per trip basis

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User Side Subsidy

Concept

- Taxi service often operated in low usage periods — nights, weekends
- Transit system agrees to pay a portion or all of the taxi fares for riders

Pro: Service only operated when needed

Con: Expensive on a per trip basis

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Hours of Operation Considerations

- Expanded service hours a major concern in Lincoln
- Different service forms can be operated during expanded hours
 - e.g., Weeknights: UNL and downtown shuttle bus routes, user side subsidy for the rest of the area
 - Sundays: User side subsidy for all users

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Frequency of Service Issues

Existing service

- Increases in service frequency often do not provide returns to scale
- Transit standard is 0.5
(e.g., 100% service increase (60 to 30 minutes) → 60% passenger increase)

New service

- Must be sensitive to market needs — *minimum thresholds*
e.g. 5-10 minute service for downtown lunch shuttle
arrival/departure times coordinated with UNL class times

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Thoughts on Service Design



- Think “family of services”
 - One size does not fit all
- Strongly consider expanded UNL services
 - Student ridership is the major reason for success in other peer cities
- Consider phasing new services
 - e.g., Evening service: User side subsidy → demand response → fixed route bus
- Involve users in the design process
 - e.g., Students for UNL service, downtown business people for shuttle

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Funding Sources

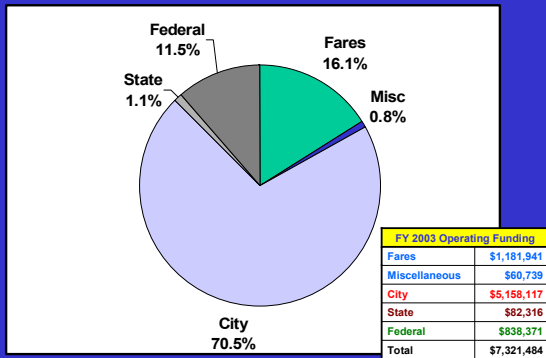


Show me the money!!



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StarTran Operating Sources



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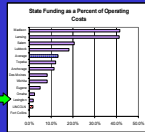


Federal Sources

- Funds allocated by formula set by Congress
- Some capital money based on Congressional earmarks (e.g., maintenance garages)
- Conclusion:** Little chance for significant increases

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State Sources



- State funding is low (peer comparison)
- Over \$730,000 if State met peer average
- Possible Arguments/Approaches
 - Rural/Urban Public Transportation Needs
 - Transportation Needs — Highway and Transit

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Local Sources

- Reliance on *general fund* revenues (\$5.2 million)
- Approaches for *dedicated* funding
 - City dedicated taxes — e.g., property tax, sales tax
 - Independent transit authority (like Omaha)
 - Potential \$6.4 million (5 mills)
 - Could be County-wide and provide rural service
 - Requires state legislation
 - Independent transportation authority (like Reno, Las Vegas)
 - Multi-modal approach involves transit in highway issues
 - Public may be more supportive

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Fare Revenues



- General Population
- Students (UNL)
- Employees

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General Population Fares

- Passengers should pay a reasonable share of operating costs
- Some communities set a standard (e.g., 20%) that prompts fare increases when the percentage falls (e.g., 19%)
- Suggestion:** Consider a standard for the plan

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Current Student Fares

Students

- Pay \$8/semester non-refundable activity **Now!**
- Receive StarTran bus pass good on all routes
- Can ride school-oriented services
 - Two shuttle services on city campus
 - StarTran Route 24: City-to-East campuses (7am-6pm)
 - Van service between City and East campuses (6pm-10pm)

StarTran

- \$290,000/year for operating cost of Route 24
- \$80,667/year for bus replacement cost of Route 24

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Some Universities Have Higher Student Fees



- Range of \$8-\$59/semester
 - Recent survey¹ of 18 university systems
- Suggests UNL fees could increase 6X
 - This would produce \$1.6 million
- However, for this increase, services must be tailored to student needs!!!

¹ Transportation on College and University Campuses, A Synthesis of Transit Practice, James H. Miller, 2001.

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Why have other universities embraced transit?

- Financial — cost of parking
 - \$260/space surface; \$800- \$2,000/space structure
- Limited/no space for campus expansion
- Quality of the environment on campus

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Parking at UNL is a Concern

- UNL is car oriented — “no car/no mobility”
 - Some changes made in last 10 years
- Campus growth increases parking demand
- UNL has increase parking and fees
 - Two parking garages built/being built in last four years
 - Parking fees are proposed to increase
 - Shuttle buses to make satellite parking more convenient

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Working with Universities Requires a “Long Game Plan”

- Years of interaction typically required
 - Change decision-makers minds/wait for new people
 - Demonstrate transit works on new services
- Student involvement/support is key
 - They are paying and using the service
- Transit must be ready to respond!!!
 - Aggressive “marketing”
 - Be part of all discussions
 - Jump on opportunities as they present themselves

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Select Employers Can be Targeted

- Provide a transit pass as an employee benefit
- Why kind of employer?
 - Has employee parking problems (e.g., downtown)
 - Wants to show interested in public good (e.g., government agencies)
- Potential targets
 - City
 - State
 - UNL
- Requires aggressive/long term “marketing”



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Final Points

- A variety of options must be considered
 - “Family of services” — One size does not fit all
- A “long game plan” is needed
 - Influence development and change minds
- A plan is a guide, not a blueprint
 - Must take advantage of opportunities as they come
- Transit be ready to respond
 - Be a visible part of community discussions